49. (Amended) A method for treating a subject infected with a bacterial microorganism, comprising administering to the subject an effective amount of the compound of claim 1, thereby treating the subject.

A6

52. (Amended) The method of claim 49, wherein the bacterial microorganism is vancomycin resistant, tolerant or sensitive.

A7

II. REMARKS

Claims 1 through 73 are pending in the application.

Claims 1, 41, 43, 44, 46, 49 and 52 have been amended.

Claim 1 has been amended to change "$N(R^2)_{n1}$" to "$N(R^2)_2$". Support for this amendment is found at page 5, lines 28 to 29. Additionally, claim 1 has been amended to change "$N(R^4)_{n2}$" to "$N(R^4)$". Support for this amendment is found at page 6, lines 8 to 11.

Claim 1 has also been amended to remove $-NH_2$ as a choice for A, B, D and E as it is claimed in the moiety "$N(R^2)_2$" wherein R^2 is H. Support for this amendment is found at page 5, lines 28 to 29.

Claim 1 has been amended to remove the term "derivative" from the claim.

Additionally, claim 1 has been amended to remove the choice of $-SO_3-$ as one of the choices for X. Claim 1 has been amended to change $-PO_3-$ to $-PO_2-$ in order to correct an inadvertent typographical error.

Additionally, claims 41, 44, 49 and 52 have been amended to change "microorganism" to "bacterial microorganism". Support for these amendments is found throughout the specification, and specifically at page 30, line 8 to page 31, Table 1.

Claim 43 has been amended to remove the examples provided in relation to the *Enterobacteriaceae* genus.

Claim 46 has been amended to change "penicillin binding protein" to "penicillin binding proteins" so as to claim the penicillin binding proteins as a class. Support for this amendment is found in the specification at page 3, lines 13 to 15.

These amendments are made without prejudice or disclaimer. They are not intended to be a dedication to the public of the subject matter of the claims, or the equivalents thereof, as previously presented. No new matter has been added by these amendments and entry thereof is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

Claims 1 through 73, as amended, are presently under examination. In view of the preceding amendments and the following remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding objections and rejections.

35 U.S.C. § 112, First Paragraph

Claims 1 through 8, 27 through 35 and 39 through 58 stand rejected under 35 U.S.C. §112, first paragraph as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Office alleged that the specification, while being enabling for n1 = 2 and n2 = 1, does not reasonably provide enablement for n1 = 1 or 0 and for n2 = 0 or 2. The Office further alleged that the indicated choices are impossible stating that A is monovalent and this n1 must be 2. Additionally, the Office alleged that Z is divalent and alleged that if n2 = 0, this would give a nitrogen with just 2 bonds.

Applicants have amended claim 1 to indicate that n1=2 and n2 =1.

Claims 41, 44, 49 and 52 stand rejected under 35 U.S.C. §112, first paragraph allegedly because the specification, while being enabling for bacteria, does not reasonably provide enablement for microorganisms generally. The Office alleged that the term "microorganism" covers virus, fungi, protozoa, etc. which are allegedly not what these compounds will be effective against.

Applicants have amended claims 41, 44, 49 and 52 to more clearly define the term "microorganism" as "bacterial microorganism".

Claims 46 through 48 stand rejected under 35 U.S.C. §112, first paragraph allegedly because the specification, while being enabled for PBPs 1a, 1b, 2, and 3 does not provide

enablement for PBPs 4, 5 and 6. The Office alleged that PBPs 4, 5 and 6 have no known physiological function and to the degree the claims allegedly embrace inhibiting them, are not enabled.

When making an assertion of a lack of enablement, the Office is required to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up its assertions with acceptable evidence or reasoning which is inconsistent with the contested statement. *In re Marzocchi*, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). While references are not always required, ***specific*** technical reasons are always required. MPEP § 2164.04 (emphasis added).

In this instance, the Office has made an assertion that the use of the claimed compounds is enabled only for PBPs with known physiological function, but has provided Applicants with no documentation or specific technical reasons in support of this assertion.

A specification disclosure must be taken in compliance with 35 U.S.C.§ 112, first paragraph unless there is reason to doubt the objective truth of the statements contained therein which must be relied upon for enabling support. *In re Marzocchi*, 439 F.2d 220, 223, 169 U.S.P.Q. 367, 370 (CCPA 1971). "It is incumbent upon the Patent Office, whenever a rejection on this basis is make, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertion of its own with acceptable evidence or reasoning which is inconsistent with the contested statement." *Id.* at 224. While references are not always required, ***specific*** technical reasons are always required. MPEP § 2164.04 (emphasis added).

Applicants respectfully request that the Office remove this rejection based on the fact that the Office did not provide technical support, provide acceptable evidence or reasoning for its assertion that "[t]he PBPs 4, 5 and 6 have no known physiological function...this is not enabled." *See* Paper Number 8 at page 5.

In light of the above amendments and arguments, Applicants respectfully request that the rejection of claims 1 through 8, 27 through 35, and 39 through 58 under 35 U.S.C. § 112, first paragraph be withdrawn.

35 U.S.C. § 112, Second Paragraph

Claims 1 through 12, 24 to 25, 27 through 37, 39 through 59 and 73 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Numbers used in this section correspond to those used by Examiner in Office Action for ease of reference.

1. The Office alleged that the term "traceless linker" is indefinite. The Office further alleged that one of ordinary skill in the art could not tell what the term "traceless linker" covers.

Claims are read in light of the specification. At page 13, lines 1 through 4 "traceless linker" is defined as a "spacer or connector between two parts of a single molecule such that when a particular bond is severed between the two parts of the molecule, the connector which is still attached to the second part of the molecule, eliminates leaving no trace of itself."

IUPAC has the following definition of "traceless linker" on their website at http://www.iupac.org/reports/1999/7112maclean/t.html: a "[t]ype of linker which leaves no residue on the compound after cleavage, i.e. is replaced by hydrogen."

The Office alleged that the term "traceless linker" does not appear in the de Groot reference. *See* de Groot, et al. *Journal of Medicinal Chemistry* (2000) **43**(16):3093-3102. de Groot reports the use of an aromatic spacer to form a prodrug of paclitaxel. de Groot reports that this aromatic spacer "proved to be a versatile self-eliminating connector" in the synthesis of their prodrugs. Supra at page 3094, column 1; also see spacer at page 3097 in Scheme 5, synthesis of compound 27; and see compound 6 at page 3097 to see "self eliminating connector" or "traceless linker" connecting two parts of the prodrug molecule.

The use of the term "traceless linker" in claim 1 would be understood by one of ordinary skill in the art of organic or medicinal chemistry to include those linkers or connectors which bind two parts of a single molecule together and which upon cleavage from the single molecule leaves no trace of itself.

2. The Office alleged that page 81, line 9 is unclear. The Office alleged that because the last ends with the "and $C(O)CH_3$" but continues with the OR_2, clarification is required.

Applicants have amended the phrase "...and $C(O)CH_3$, OR_2..." to "...$C(O)CH_3$ and OR_2..." in order to correct an inadvertent grammatical/typographical error.

3. The Office alleged that the first choice at page 81, line 13 (Applicants assume Office made typographical error in stating choice was at page 81, line 3) is in error. The Office alleged that PO_3 cannot be divalent. Applicants have amended the claim such that PO_3 is PO_2 in order to correct an inadvertent typographical error. Applicants maintain that one of skill in the art in practicing the invention would know this was impossible as written with the typographical error and would practice the invention (with little to no experimentation) with PO_2 instead.

4. The Office alleged that the choice of $-NH_2$ at page 81, line 8 appears superfluous as it is allegedly covered by the next choice.

Applicants have amended claim 1 such that the choice $-NH_2$ is removed.

5. The Office alleged that the term "sugar" at the last line of page 82 (Applicants assume that the Office made a typographical error in referring to page 81) and at page 83, line 1 is indefinite as the Office alleged that there is no single generally accepted definition of what a sugar is. The Office further alleged that sugar is a molecule and not a moiety.

Two well known tenets of patent law are 1) that an Applicant can be his own lexicographer and 2) that claims are read in light of the specification. Applicants' undersigned attorney directs the Office to page 16, lines 6 through 21 of the specification that specifically defines and provides examples for the allegedly offending terms that define a standard structure. Moreover, such use is consistent with the recognized use of the term in the art. See, for example, pages 1170 through 1180, of an undergraduate organic chemistry text, ORGANIC CHEMISTRY (1973) Morrison & Boyd, Eds. Allyn and Bacon, Inc., Boston, Mass., USA. Thus, Applicants' definition of the term "sugar group" is consistent with the in the chemistry text. Copies of pages 1170 through 1180 are attached for the Office's convenience.

Applicants further direct the Office's attention to pages 530 through 551 from the professional and post-graduate text CHEMISTRY OF NUCLEOSIDES AND NUCLEOTIDES (1994) Townsend, L. Ed., Plenum Press, NY, NY, USA. (copies attached). This partial index of the text contains the terms sugar moieties, sugar rings and sugar hydrazones. Thus, the term "sugar" is well known to one of skill in the art and denotes to them certain defined structures.

6. The Office alleged that several R^1 choices are molecules having no valence, i.e., the amines including THAM and PEG.

Applicants respectfully disagree. Applicants maintain that it is understood by those of skill in the art that the choices for R' which are molecules, as for example THAM and PEG, are necessarily comprised of a moiety having a free valence. Applicants further maintain that the specification is enabling for the use of these molecules as moieties having a free valence in the claimed compound. *See*, for example, the specification at page 27, second compound.

7. The Office alleged that the term "derivatives" at page 83, line 5 is of unknown scope. The Office alleged that one of ordinary skill in the art cannot know what is intended.

Without conceding the correctness of the Office's position and in a sincere effort to place the claims in condition for allowance, claim 1 has been amended herein to remove the term "derivatives" from the claim.

8. The Office alleged that the word "includes" on page 87, line 7 is improper alternative language. The Office further alleged that the entire material in parenthesis is not needed.

Applicants have amended claim 43 at page 87, line 7 to correct the alleged improper alternative language.

9. The Office alleged that claim 44 is improperly dependent on claim 41. The Office further alleged that claim 47 and 52 are also improperly dependent on claims 46 and 49, respectively.

Claim 41 is to a method of inhibiting a bacterial microorganism by contacting it with an effective amount of one of the claimed compounds. Claim 44 is to the method of claim 41, wherein the bacterial microorganism is vancomycin resistant, tolerant or sensitive. Claim 46 is to the method for inhibiting penicillin binding protein in an infected cell by contacting the cell with one of the compounds of claim 1. Claim 47 is dependent on claim 46, wherein the infected cell is vancomycin resistant, tolerant or sensitive. Claim 49 is to a method of treating a subject infected with a bacterial microorganism by administering one of the compounds of claim 1 to the subject. Claim 52 is dependent on claim 49, wherein the bacterial microorganism is vancomycin resistant, tolerant or sensitive.

Claims are read in light of the specification. In the specification at page 29, lines 21 to 29, the Applicants describe the mechanism by which the claimed compounds are effective against vancomycin resistant, sensitive or tolerant microorganisms.

The specification defines a "vancomycin resistant microorganism" as a microorganism with the mechanism of inhibiting cell wall biosynthesis which renders vancomycin ineffective against the microorganism. The claimed compounds inhibit cell wall biosynthesis by inhibiting penicillin binding protein and forming bactericidal agents and thus are effective against vancomycin sensitive microorganisms as well as vancomycin resistant microorganisms.

The specification defines "antibiotic tolerant or sensitive microorganisms" as those which stop growing, but do not die in the presence of the antibiotic. Therefore, a vancomycin tolerant or sensitive microorganism will stop growing, but not die in the presence of vancomycin.

These compounds can inhibit, among others, a bacterium selected from the group consisting of vancomycin resistant *Staphylococcus aureus*, *Staphylococcus epidermis*, *Enterococcus faecalis* and *Enterococcus faecium*. *See* the specification at page 30, lines 24 through 29.

Applicants assert that claims 44, 47 and 52 are properly dependent on claims 41, 46 and 49, respectively, given the above definitions for vancomycin resistant, vancomycin sensitive and vancomycin tolerant in the specification

10. The Office alleged that claim 54 does not make sense as it describes a three step process to screen for an antibacterial agent, wherein the Office alleged that after one has done the first step, the screening is completed. The Office alleged that adding the second and third steps adds nothing.

Claim 54 is to the method of screening for an antibacterial agent by 1) contacting a first sample containing a bacterial cell with a test agent; 2) contacting a second sample containing a bacterial cell with a compound of claim 1; and 3) comparing the ability of the first sample against the second to inhibit the growth of the bacterial cell.

Claims are to be read in light of the specification. The invention provides a method for screening for an antimicrobial agent comprising contacting a sample containing a microbial cell with a test agent and contacting a second sample containing the microbial cell with a compound

of this invention and comparing the ability of each to inhibit the growth of the microbe. The sample is intended to include microbial cells and subject cells infected with microorganisms that express β-lactamase or PBP. The test cells or tissue also are intended to include those that are infected with are resistant, tolerant or sensitive, e.g., to β-lactam or vancomycin. An infected cell can be a eucaryotic cell, i.e., a mammalian cell, e.g. a mouse cell, a rat cell, a hamster cell, or a human cell. The cell can be continuously cultured or isolated from an infected animal or human subject. *See* the specification at page 30, lines 3 to 13.

The second step is important in claim 54 in order to have a control sample for comparison of the ability of the tested compound to inhibit bacterial growth of the microorganism against a compound of the invention which is known to inhibit bacterial growth of that microorganism. The third step is important in determining if the test compound is an effective antibiotic when compared with compounds of this invention against the same cells.

11. The Office alleged that claim 46 refers to "...inhibiting penicillin binding protein in an infected cell..." but alleged that there is not any "penicillin binding protein" *per se*. The Office alleged that there are seven penicillin binding proteins (PBPs) in *E. Coli* which are responsible for the polymerization and maturation of the rigid peptidoglycan potion of the bacterial cell wall. The Office alleged that four of these PBPs (1a, 1b, 2 and 3) are involved in the primary elongation and separation of the cell wall. The Office alleged that the other PBPs (4, 5 and 6) have no known physiological function. The Office suggested that Applicants should have claim refer to the plural PBPs as a class or state which PBPs the claim refers to.

Applicants have amended claim 46 to refer to the plural PBPs as a class.

12. The Office alleged that the dotted line in the claim 59 structure needs to be defined.

It is understood by those of ordinary skill in the art that the dotted lines as used in the structure in claim 59 are one of the shorthand ways of representing the resonance of the compound. *See*, for example, J. March, ADVANCED ORGANIC CHEMISTRY: REACTIONS, MECHANISMS AND STRUCTURE, 4th edition (John Wiley & Sons, NY (1992)), pages 40 to 41. Copies are attached for the Office's convenience.

13. The Office alleged that the third R choice in claim 59 is impossible as it is divalent, but R is allegedly required to be monovalent.

14. The Office alleged that claim 73 appears garbled. The Office alleged that the first step of "reacting" starting material with triclosan should give the final product. Thus, the Office alleged that it is not clear what the purpose of steps 2 and 3 are.

Claim 73 is to the process of preparing diphenyl 3-(2-(2,4-dichlorophenoxy)-5-chlorophenoxy)methyl-7-β-(o-hydroxy)benzylideamino-3-cephem-4-carboxylate. There are two major steps to the synthesis of this final product. The first is condensation (which is the point at which triclosan is added to the compound having the structure found at claim 73). However, the compound must then be deprotected at the 4 position to remove the $-Ph_2$ group to leave carboxylate. Therefore, step 1 provides an intermediate compound which requires the further steps of 2 and 3 to yield the final compound.

In light of the above amendments and arguments, Applicants respectfully request that the rejection of claims 1 through 12, 24 to 25, 27 through 37, 39 through 59 and 73 under 35 U.S.C. §112, second paragraph be withdrawn.

Allowable Claims

Claims 13 through 23, 26, 38 and 60 through 72 stand objected to allegedly being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In light of the above amendments and arguments, Applicants respectfully request that the objection to claims 13 through 23, 26, 38 and 60 through 72 as being dependent upon a rejected base claim be withdrawn.

Specification

The Office objected to the abstract of the disclosure because it allegedly does not give the nature of the material.

The abstract of the disclosure has been amended to include the structure of the compounds.

In light of this amendment, Applicants respectfully request that the objection to the abstract of the disclosure be withdrawn.

Information Disclosure Statement

The Office stated that Applicants filed only a Supplemental Information Disclosure Statement with 44 references and alleged that this is the only Information Disclosure Statement received. Additionally, the Office alleged that the two references struck out on the PTO-1449 were not provided.

Applicants filed an initial Information Disclosure Statement on August 2, 2001. On August 6, 2001, the Office stamped the return postcard indicating receipt of the following: 1) Information Disclosure Statement; 2) Form PTO-1449 and 3) Copies of 20 references. A copy of this stamped postcard is enclosed.

In the interest of expediting the prosecution of this patent application, Applicants are enclosing a duplicate copy of the filing of the Information Disclosure Statement, with copies of the references enclosed which was originally filed on August 2, 2001 for the Office's review. Additionally, Applicants are enclosing the two references cited, but allegedly not provided, with the supplemental Information Disclosure Statement filed on January 2, 2002.

III. CONCLUSION

If a telephone interview would advance prosecution of the subject application, the Examiner is invited to telephone the undersigned at the number provided below.

In the unlikely event that the transmittal letter is separated from this document and/or the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 50-1189**, referencing billing number **23896-7062.** However, the

Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Date: September 26, 2002

By: _____

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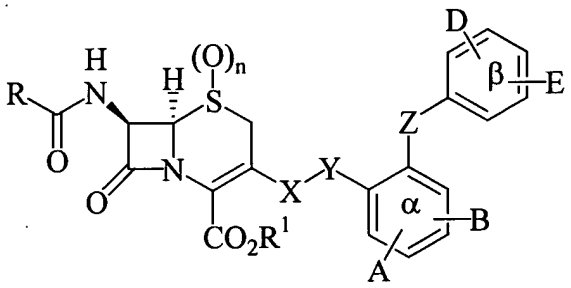
VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

The paragraph under ABSTRACT OF THE INVENTION on page 93 has been amended as follows:

[The present invention provides compositions comprising improved beta-lactam antibiotics and methods for applying these compositions to inhibit the growth of microbial infections. The improved antibiotics are capable of inhibiting the growth of both antibiotic sensitive and antibiotic resistant microorganisms In addition, the invention provides methods for treating a subject infected with a microorganism by administering the compositions of the invention.]

This invention provides improved beta-lactam antibiotic compounds of the formula:

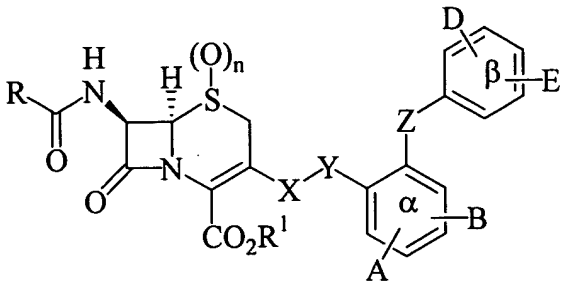


wherein R, R^1, X, Y, Z, A, B, D and E are defined herein. The present invention also provides methods for inhibiting the growth of both antibiotic resistant and sensitive microbial infections. It provides a means of taking advantage of a key disease resistance mechanism to activate these drugs locally, and to overcome the resistance phenotype of the microbes. In addition, the invention provides methods for treating a subject infected with an antibiotic resistant microorganism by administering the compounds or compositions of the invention. The present invention also provides a novel synthetic method for the synthesis of the compounds.

In the claims:

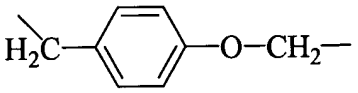
Claims 1, 41, 43, 44, 46, 49 and 52 have been amended as follows:

1. (Amended) A compound of the following structure:



wherein n is 0, 1 or 2;

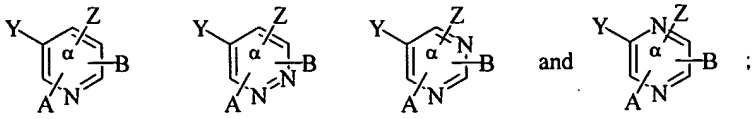
wherein A, B, D, and E are independently the same, different or absent and are selected from the group consisting of a halogen, H, CN, NO_2, CF_3, C(O)H, [NH_2, $N(R_2)_{n1}$] $\underline{N(R^2)_2}$, [and] $C(O)CH_3$, and OR^2, wherein R^2 is selected from the group consisting of H, lower alkyl, alkenyl group, and alkynyl group[and wherein n1 is 0, 1 or 2];

wherein X is selected from the group consisting of CH_2, *cis*-CH=CH-CH_2-, *trans*-CH=CH-CH_2, -CH_2-O-C(O)-, -NH-C(O)-O-, $-C\equiv C-CH_2$, [-PO_3-, -SO_3-], -PO2-, -SO2-,-NH-CH_2-CH_2-CH_2-NH-CO-, traceless Linker, and  ;

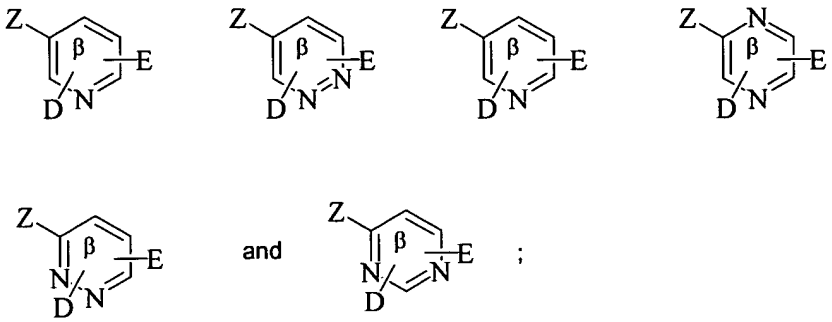
wherein Y is selected from the group consisting of -O-, -S-, and NR^3, wherein R^3 is selected from the group consisting of H, lower alkyl, alkenyl group, and alkynyl group;

wherein Z is selected from the group consisting of -O-, -C(O)-, -S-, α-C(O)-N(R^4)-β, α-N(R^4)-C(O)-β, and [N(R^4)$_{n2}$] $\underline{N(R^4)}$, wherein R^4 is selected from the group consisting of H, OH, R^5, and OR^5, wherein R^5 is selected from the group consisting of H, lower alkyl, alkenyl group, and alkynyl group [and wherein n2 is 0, 1 or 2];

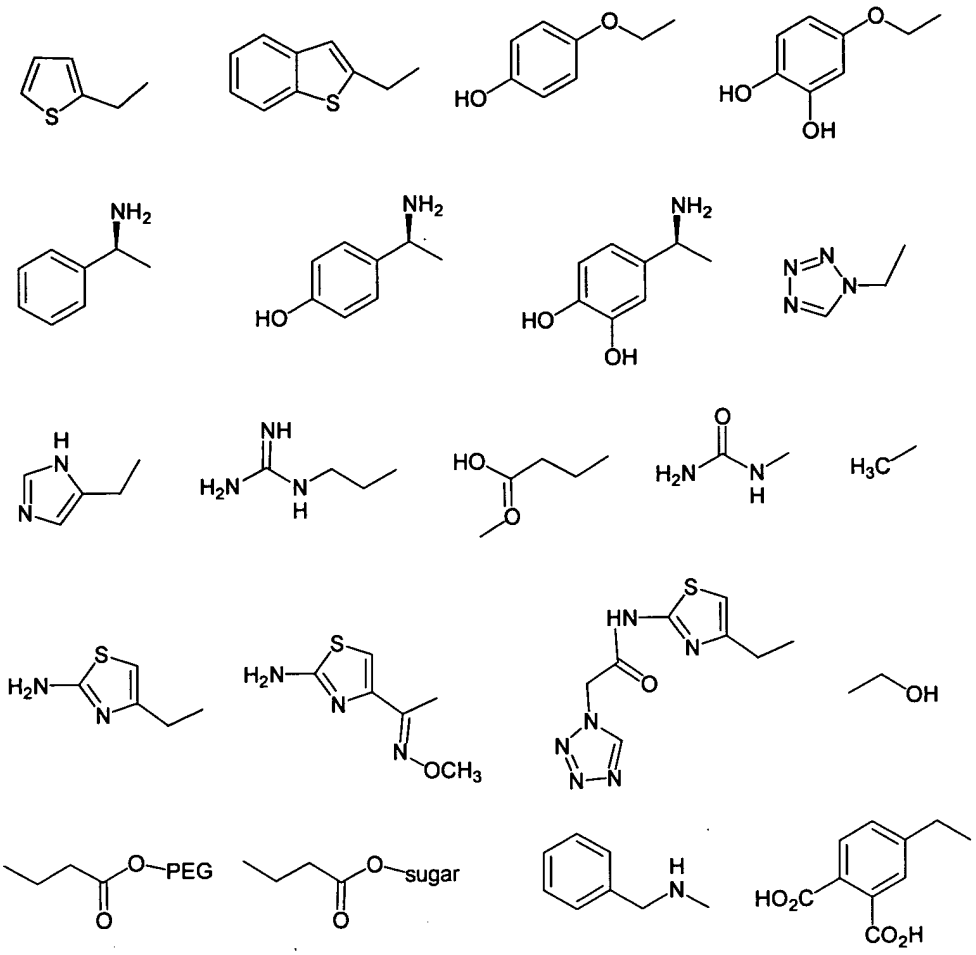
wherein ring α connects Y to Z and is a benzene or a heterocycle selected from the group consisting of



wherein ring β connects to Z and is a benzene or a heterocycle selected from the group consisting of



wherein R is selected from the group consisting of Ph-, $PhCH_2$- and $PhOCH_2$; or a structure selected from:



wherein R^1 is selected from the group consisting of H, Li, Na, sugar, THAM (2-amino-2-hydroxymethyl-1,3-propanediol), ammonium, methylamine, dimethylamine, lower alkylamine, bis(lower alkyl)amine and polyethylene glycol (PEG); [and derivatives] and pharmaceutically acceptable salts of the compounds.

41. (Amended) A method of inhibiting the growth of a bacterial microorganism comprising contacting the microorganism with an effective amount of the compound of claim 1.

43. (Amended) The method of claim 42, wherein the microorganism is selected from the group consisting of *Staphylococcus aureus, Staphylococcus epidermidis* and other coagulase-negative staphylococci, *Streptococcus pyogenes, Streptococcus pneumoniae, Streptococcus*

agalactiae, Enterococcus species, *Corynebacterium diphtheriae, Listeria monocytogenes, Bacillus anthracis, Neisseria meningitidis, Neisseria gonorrhoeae, Moraxella catarrhalis, Vibrio cholerae, Campylobacter jejuni, Enterobacteriaceae* [(includes: *Escherichia, Salmonella, Klebsiella, Enterobacter)*], *Pseudomonas aeruginosa, Acinetobacter* species, *Haemophilus influenzae, Clostridium tetani, Clostridium botulinum, Bacteroides* species, *Prevotella* species, *Porphyromonas* species, *Fusobacterium* species, *Mycobacterium tuberculosis, and Mycobacterium leprae*, with the proviso that when the compound is 3-(2-(2,4-dichlorophenoxy)-5-chlorophenoxy)methyl-7-(2-thienylacetamido)-3-cephem-4-carboxylic acid, the microorganism is not *Pseudomonas aeruginosa.*

44. (Amended) The method of claim 41, wherein the bacterial microorganism is vancomycin resistant, tolerant or sensitive.

46. (Amended) A method for inhibiting penicillin binding [protein] proteins in an infected cell comprising contacting the cell with an effective amount of claim 1.

49. (Amended) A method for treating a subject infected with a bacterial microorganism, comprising administering to the subject an effective amount of the compound of claim 1, thereby treating the subject.

52. (Amended) The method of claim 49, wherein the bacterial microorganism is vancomycin resistant, tolerant or sensitive.

#9

PTO/SB/22 (10-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)	Docket Number (Optional) NB 2016.00

In re Application of	Ming Fai CHAN, et al.		
Application Number	09/847,525	Filed	05/01/01
For	BETA-LACTAM ANTIBIOTICS		
Group Art Unit	1624	Examiner	Mark L. Berch

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and appropriate non-small-entity fee are as follows (check time period desired):

- ☐ One month (37 CFR 1.17(a)(1)) $
- ☐ Two months (37 CFR 1.17(a)(2)) $
- ☒ Three months (37 CFR 1.17(a)(3)) $460
- ☐ Four months (37 CFR 1.17(a)(4)) $
- ☐ Five months (37 CFR 1.17(a)(5)) $

☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee amount shown above is reduced by one-half, and the resulting fee is: $_____.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Commissioner has already been authorized to charge fees in this application to a Deposit Account.

☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number **50-1189 (billing reference 23896-7062)**. I have enclosed a duplicate copy of this sheet.

I am the
- ☐ applicant/inventor
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).
- ☒ attorney or agent of record.
- ☐ attorney or agent under 37 CFR 1.34(a). Registration number if acting under 37 CFR 1.34(a) _____.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Sept. 26, 2002
Date

Michele Todd Wasmuth
Signature

Antoinette F. Konski, Reg. No. 34,202
Michele Todd Wasmuth, Reg. No. 43,239
Typed or printed name

10/02/2002 MOHAMM1 00000038 501189 09847525
01 FC:217 460.00 CH

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of _____ forms are submitted.